

# Core4

Better Soil. Cleaner Water.  
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## Conservation for Agriculture's Future

### Job sheet for seeding grassed waterways



#### Critical Area Planting (Practice standard 342)

Establishing permanent vegetation on sites that have or are expected to have high erosion rates, to protect them from soil erosion.

Seeding should be completed as soon as possible after construction of the waterway is completed.

#### Site Preparation

- Shape to final design grade, including installation of all measures to provide surface and subsurface drainage (such as tile lines) and needed erosion control practices (such as outlet structures)
- Work the seedbed to a minimum depth of 4 inches with a disc, field cultivator or chisel plow to loosen compacted layers, incorporate fertilizer and permit root penetration.
- After working the seedbed, harrow or pack it prior to seeding to break up large clods and firm the seedbed. The prepared seedbed must be soft enough to permit covering the seed and anchoring mulch, yet firm enough to prevent burying seeds too deep. For example, the soil should be firm enough to support the weight of a person without sinking into the soil more than ½ inch.

#### Lime and Fertilizer

- Apply 80 lbs / acre of N – P<sub>2</sub>O<sub>5</sub> – K<sub>2</sub>O (1.8 lbs/ 1000 ft<sup>2</sup>)
- Apply lime as needed to adjust soil pH to 6.0 for grass species.
- Incorporate during seedbed preparation.

#### Seeding Dates

- Seeding of the waterway should be done immediately after construction when construction occurs between April 1 and September 10<sup>th</sup>.
- No seedings will be done from September 10 to November 1. After November 1, a dormant seeding may be done. Waterways constructed after Sept. 10 may be mulched and dormant seeded or mulched and seeded the following spring.
- If the waterway is completed between June 15 and August 1, it is strongly recommended to wait until August 1 to do the seedbed preparation and seeding. If this is not possible, waterway seeding can be done in between June 15 and August 1; however these seedings will have a greater chance of failure.

#### Seeding Mixture

Seed the following mixture in the waterway:

_____ Lbs. of _____	per _____
_____ Lbs. of _____	per _____
_____ Lbs. of _____	per _____
_____ Lbs. of _____	per _____

#### Companion Crops

- Small grain companion crops may be used with seeding mixtures if approved by the technician. If the waterway is not mulched, then a companion crop is required.
- Use barley or oats at ¾ to 1 ¼ bushels per acre with spring, fall, or dormant seedings. Winter wheat or rye can be used with spring seeding only at ½ to ¾ bushels per acre.
- Clip companion crops in the boot stage.

### Method of Seeding

- Drilling: Grasses should be drilled uniformly over the area at a depth of ¼ to ½ inch using a grassland drill, grain drill or cultipacker seeder that can control seeding depth and has press wheels to pack the soil in each drill row.
- Seeding across the direction of water flow is preferred to seeding up and down the waterway.
- Broadcasting: Seed shall be uniformly distributed by a mechanical or hand operated seeder. Cover the seed by cultipacking, harrowing or hand raking.
- Dormant seeding: After the waterway has been constructed, wait until November 1. Then prepare the seedbed, drill the seed, apply and anchor the mulch the same as during other seeding periods.
- An alternate method of dormant seeding is to prepare the seedbed and apply and anchor the mulch immediately after construction. After November 1, sow the seed over the mulch. Seeding rates must be doubled when using this method.

### Mulching.

- Mulching is required when the velocity in the channel exceeds 2.5 fps, and with all dormant seedings. The benefits of mulching are considered for each site and may be required in other situations.
- Grass hay or cereal grain straw is the most common mulching material used in waterways. Use 70 – 100 lbs. (2 bales) per 1000 sq. ft. (90 – 100 bales per acre). Use enough material to lightly cover 75-90% of the surface. The mulch should be uniformly spread without dense clumps or bare areas. Anchor using a disc with serrated straight disks or similar equipment so the mulch material does not blow or wash away. The anchoring disc should crimp and push the straw mulch into the soil, creating an effect similar to grain stubble. It should not cut the straw into smaller pieces.
- Shredded or chopped corn stalks may also be used at a rate of 185 – 275 lbs. per 1000 sq.ft. or 4 – 6 tons per acre. Anchoring is not required but may be desirable.
- Organic fiber blankets and mats are effective for erosion control on steep slopes and areas of concentrated flow. Use according to manufacturers directions.
- Apply mulch after the waterway has been seeded.

## Maintenance

- Protect new seedlings from grazing, fire and traffic until well established
- Control undesirable broadleaf weeds and weedy grasses as needed. Use clipping or herbicides.
- Inspect annually and make any needed repairs. Reseed eroded areas promptly. Never place rocks in a waterway. Obstructions such as rocks and debris cause the concentration of water flow and consequent cutting.
- Avoid using the waterway as a road. Never drive in it when the soil is wet.
- Use care when crossing with implements. Lift all tillage implements and cross at right angles to the waterway. Turn off sprayers when crossing waterways so the chemicals will not kill the grass.
- Do not farm parallel with the waterway. Tillage operations carried out parallel to the waterway often result in soil building up at the waterway edge, which keeps water from moving into the waterway. Water then flows alongside the intended watercourse and cuts a new gully.

### Additional Site Specific Comments

[illegible]